

ABSTRACT

The invention concerns a method for operating an electric motor having a stator; an external rotor (40), which external rotor (40) comprises a sensor magnet (54) having a plurality of sensor poles (55); having at least one rotor position sensor (42, 44), connected to the stator; and having a rotor position evaluation arrangement. The method comprises the following steps: With the at least one rotor position sensor, at least one rotor position signal dependent on the rotational position of the sensor magnet (54) is generated. The at least one rotor position signal is delivered to the rotor position evaluation arrangement. The at least one rotor position signal is converted, in the rotor position evaluation arrangement, into at least one digital value having a resolution of at least two bits, with the result that the at least one rotor position signal can be converted into different digital values even at rotational positions within the angle range of one sensor pole. The invention further concerns an electric motor having a stator and an external rotor (40), the external rotor (40) comprising a sensor magnet (54) having a plurality SP of sensor poles (55); having at least one rotor position sensor (42, 44) for generating a rotor position signal; having a rotor position evaluation arrangement for generating an absolute value for the rotor position, which apparatus comprises an A/D converter (144) having a resolution of at least two bits, the at least one rotor position sensor (42, 44) being connected to the A/D converter.